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Claims

- Supt
#6*
1. A long range artillery shell comprising a payload, a rocket motor and a rocket motor delay mechanism for delaying ignition of the rocket motor for a predetermined time after launch of the shell wherein the rocket motor comprises:
 - a combustion chamber;
 - a plenum chamber located at one end of the combustion chamber;
 - a rocket nozzle for venting the plenum chamber;
 - a solid rocket propellant being arranged in an end-burn configuration and housed within the combustion chamber;
 - a propellant support located between the propellant and the plenum chamber wherein the propellant support is adapted to prevent substantial movement of the propellant during launch, to prevent entry of unburnt propellant into the plenum chamber and to permit in use the substantially unhindered transfer of propellant combustion products to the plenum chamber.
 2. A long range artillery shell as claimed in Claim 1 wherein the propellant support comprises a perforated plate of substantially impermeable material having a multiplicity of perforations therethrough.
 3. A long range artillery shell as claimed in Claim 2 wherein the propellant support additionally comprises a load transfer means adapted to transfer a proportion of the axial acceleration loads experienced during launch from the perforated plate to the walls of the plenum chamber.

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4. A long range artillery shell as claimed in Claim 3 wherein the load transfer means consists of a load ring arranged concentric with and abutting the perforated plate.

5. A long range artillery shell as claimed in Claim 4 wherein the load ring is a cylindrical support located in the plenum chamber, extending longitudinally from the perforated plate to the rearward wall of the combustion chamber.

6. A long range artillery shell as claimed in Claim 5 wherein the cylindrical support is provided with a plurality of slots.

a 7. A long range artillery shell as claimed in Claim 6 wherein there is additionally provided a base bleed system.

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